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EXAMINER

LEE, SHUN K

ART UNIT PAPER NUMBER

2878

DATE MAILED: 01/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/847,466

Applicant(s)

VAN DEN ENGH, GERRIT J.

Examiner

Shun Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 October 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-71 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-71 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 May 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 25 October 2002 is: a) ☐ approved b) ☒ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8.

- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on 25 October 2002 have been disapproved. The drawings must show every feature of the invention specified in the claims (37 CFR 1.83(a)). Therefore, the radiation beams orthogonal to each other (e.g., claims 15, 25, and 38) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. A proper drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The correction to the drawings will not be held in abeyance. It is noted that Applicant argues that the "... claimed apparatus and devices, although encompassing embodiments that include radiation or a radiation beam are not required to include radiation or a radiation beam". Claims 15, 25, and 38 recite the limitation of the means for changing the direction of propagation is placed to direct the radiation beams passing through the 2 or more pin holes orthogonal to each other. Thus it is clear that the radiation beams passing through the 2 or more pin holes required to be orthogonal to each other is a feature of the invention specified in the claims. Further, applicant submits that Fig. 4B with beam 7c is orthogonal to beam 7b is sufficient to show the cooperative relationship between elements. Examiner respectfully disagrees. The key features of claims 15, 25, and 38 are means for changing the direction of propagation, the radiation beams passing through the 2 or more pin holes, and orthogonal to each

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other and Fig. 4B fails to illustrate radiation beams passing through the 2 or more pin holes having a changed propagation direction that are orthogonal to each other.

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the automated system features (as recited in claims 48-50 and 65-71) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claim 50 is objected to because of the following informalities: in claim 50, "said radiation directing means" on line 3-4 should probably be --said means for directing radiation from a radiation source to a flow chamber-- (to avoid confusion with "means for directing a radiation beam to said screen" on line 5 and "said directing means" on line 6 in claim 48). Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 19-47 and 59-64 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See

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MPEP § 2172.01. The omitted structural cooperative relationships are: a radiation beam relative to other elements within the claims. It is noted that the specification states (pg. 6, lines 1-4) that "As used herein, the term "radiation beam" is intended to refer to a collection of electromagnetic waves or particles propagated in a uniform direction of propagation". Thus the claim limitation "radiation beam" within the context of the specification is a collection of electromagnetic waves or particles propagated in a uniform direction of propagation. Dependent claims 30 and 44 recite the limitation of a means for collimating radiation reflected by said mirrored surface, said collimating means placed to direct radiation to said radiation detecting means. Therefore, the radiation reflected by said mirrored surface requires a means for collimating radiation and thus is not the radiation beam reflected by the mirrored surface since the reflected radiation beam is already collimated (*i.e.*, electromagnetic waves or particles propagated in a uniform direction of propagation).

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3, 19-22, 28, 32, 51, 53, and 59 are rejected under 35 U.S.C. 102(b) as being anticipated by Ebbing (US 5,648,847).

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In regard to claim **1**, Ebbing discloses (Fig. 3A) a radiation directing device, comprising a screen (20) having a mirrored surface (column 4, lines 48-51) interrupted by one or more pin holes (22, 22b; column 5, lines 4-7) that pass through said screen (20) such that the inner surface of the pin holes (22, 22b) is coaxial (column 4, lines 57-61) with the laser beam path (13), said pin holes (22, 22b) inherently having an elliptical shape (*i.e.*, the pin hole inner surface is a cylinder with the cylinder axis centered on the laser beam path 13, thus the pin holes 22, 22b have an elliptical shape since the surfaces of the screen 20 are non-orthogonal relative to the cylinder axis), wherein the major axis of said elliptical pin holes is about 0.1 to 2 mm (*e.g.*, 1.3 mm width; column 4, lines 51-54).

In regard to claim **2** which is dependent on claim 1, Ebbing also discloses (Fig. 3A) that said mirrored surface comprises a planar surface.

In regard to claim **3** which is dependent on claim 2, Ebbing also discloses (Fig. 3A) that said pin holes (22, 22b) are disposed at a substantially non-orthogonal angle with respect to said planar surface.

In regard to claims **19** and **28** in so far as understood, Ebbing is applied as in claim 1 above. Ebbing also discloses (Fig. 3A) a means (26a; column 5, lines 53-55) for detecting a radiation beam reflected by said mirrored surface, wherein said detecting means (26a) determines a position of the radiation beam relative to said pin hole (22, 22b).

In regard to claim **20** which is dependent on claim 19, Ebbing is applied as in claim 2 above.

In regard to claim **21** which is dependent on claim 19, Ebbing is applied as in claim 3 above.

In regard to claim **22** which is dependent on claim 19, Ebbing also discloses (Fig. 3A) that said mirrored surface is placed to reflect a radiation beam at an angle 2 times β .

In regard to claim **32** which is dependent on claim 19, Ebbing also discloses (Fig. 3A) a means (16) for directing radiation to said screen (20).

In regard to claim **51**, Ebbing is applied as in claim 1 above. Ebbing also discloses (column 2, lines 37-39) that said mirrored surface prevents passage of radiation in the UV, VIS or IR regions of the spectrum (e.g., a HeNe or HeCd laser beam; column 1, lines 37-40; and a HeNe laser beam is inherently a VIS beam such as 633 nm).

In regard to claim **53** (which is dependent on claim 1) and claim **59** (which is dependent on claim 19), Ebbing also discloses (column 2, lines 39-43) that said pin hole comprises a material transparent to radiation in the UV, VIS or IR regions of the spectrum.

8. Claims 33-36, 43, 46, 47, and 62 are rejected under 35 U.S.C. 102(a) as being anticipated by Asbury *et al.* ("Polarization of scatter and fluorescence signals in flow cytometry" Cytometry 40:88-101, 2000).

In regard to claims **33**, **43**, **46**, and **47**, Asbury *et al.* disclose (Fig. 3) a flow cytometer comprising a radiation beam aligning apparatus, the apparatus comprising:

- (a) a flow chamber (*i.e.*, sample stream; it should be noted that the specification states (pg. 8, line 28 to pg. 9, line 3) that "As used herein, the term "flow chamber" is intended to mean a device that can produce or contain a sample stream such that movement of the device produces a change in the trajectory of the sample stream. A sample stream can include any mobile phase that passes particles in single file including, for example, a fluid stream or fluid jet");
- (b) a screen (*i.e.*, pinhole mirror) having a mirrored surface interrupted by one or more pin holes passing through said screen;
- (c) a means (*i.e.*, a lens such as a 20X objective) for directing emission radiation from said flow chamber to said screen; and
- (d) a means (*i.e.*, an image detection device such as a camera) for detecting radiation reflected by said mirrored surface, wherein said detecting means determines a position of a radiation beam relative to said pin hole.

In regard to claim **34** which is dependent on claim 33, Asbury *et al.* also disclose (Fig. 3) that said mirrored surface comprises a planar surface.

In regard to claim **35** which is dependent on claim 33, Asbury *et al.* also disclose (Fig. 3) that said pin holes are disposed at a substantially non-orthogonal angle β with respect to a planar surface of said screen.

In regard to claim **36** which is dependent on claim 33, Asbury *et al.* also disclose (Fig. 3) that said mirrored surface is placed to reflect a radiation beam at an angle 2 times β .

In regard to claim **62** which is dependent on claim 33, Asbury *et al.* also disclose (first two paragraphs in Materials and Methods) that said pin hole comprises a material transparent to radiation in the UV, VIS or IR regions of the spectrum.

CI in Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 6, 7, 23, and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ebbing (US 5,648,847).

In regard to claim 6 which is dependent on claim 1, the radiation directing device of Ebbing lacks an explicit description that said mirrored surface has dimensions of 18 mm by 18 mm. However, Ebbing teaches (Fig. 3A) that the mirrored surface has large enough dimensions so as to reflect a radiation beam (15a) which is not aligned with pin hole (22) to a detector (26a). Therefore it would be obvious to one of ordinary skill to select large enough dimensions (e.g., 18 mm by 18 mm) for the mirrored surface in the radiation directing device of Ebbing, in order to reflect a radiation beam which is not aligned with a pin hole.

In regard to claim 7 (which is dependent on claim 1) and claim 23 (which is dependent on claim 19), the apparatus of Ebbing lacks an explicit description that said screen having a mirrored surface is interrupted by 3 pin holes passing through said screen. However, Ebbing teaches (column 5, lines 4-7) to provide multiple pin holes in order to check for divergence. Therefore it would be obvious to one of ordinary skill to provide multiple pin holes (e.g., 3 pin holes) in the apparatus of Ebbing, in order to check for beam divergence.

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In regard to claim **29** which is dependent on claim 19, the apparatus of Ebbing lacks an explicit description that said radiation detecting means further comprises an image detection device. Ebbing also teaches (column 6, lines 1-11) to provide an alignment pattern so as to determine the position of the beam. Further, provision of an image detection device instead of direct visual observation is well known in the art. Therefore it would be obvious to one of ordinary skill to provide an image detection device as the radiation detecting means in the radiation directing device of Ebbing, in order to determine the location of the beam on an alignment pattern.

In regard to claims **30** and **31** which are dependent on claim 19 in so far as understood, the apparatus of Ebbing lacks a means for collimating radiation reflected by said mirrored surface, said collimating means (*i.e.*, means for directing radiation) placed to direct radiation to said radiation detecting means. Ebbing teaches (column 5, lines 4-7) to provide multiple pin holes in order to check for divergence. Therefore it would be obvious to one of ordinary skill to provide multiple pin holes and a collimating means in the apparatus of Ebbing, in order to collimate and direct a divergent beam to a detector so as to check for beam divergence.

11. Claims 5, 52, 54, 55, 60, and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ebbing (US 5,648,847) in view of Walker *et al.* (US 3,813,172) and Koso (US 4,801,810).

In regard to claim **5** (which is dependent on claim 1), claim **52**, claims **54** and **55** (which are dependent on claim 53), and claims **60** and **61** (which are dependent on claim 59), the apparatus of Ebbing lacks an that the pinhole mirror comprises a metal or

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metallic layer having apertures deposited on a material such as glass or quartz. Pinhole mirrors are well known in the art. For example, Walker *et al.* teach (column 4, lines 1-18) that a pinhole mirror comprises a metal or metallic layer having apertures deposited on a material such as glass or the like and Koso teaches (column 3, lines 36-39) that preferred mirror materials are glass or quartz. Therefore it would be obvious to one of ordinary skill to that the pinhole mirror (20) in the apparatus of Ebbing comprises a metal or metallic layer having apertures contacting a material such as glass or quartz.

12. Claims 8-11, 13-18, 24-27, and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ebbing (US 5,648,847) in view of Bayrock *et al.* (US 6,353,657).

It is noted that the specification states (pg. 7, lines 1-7) that "As used herein, the term "juxtaposed" is intended to mean directly adjacent. The term can include direct contact by attachment mediated, for example, by adhesion or fastening. The term includes, for example, a prism directly adjacent to a pin hole due to attachment of the prism, with an adhesive compound, to a surface through which the pin hole passes". Thus the claim limitation "juxtaposed" within the context of the specification means directly adjacent such as direct contact by attachment.

In regard to claims **8-11** and **13-18**, claims **24** and **25** (which are dependent on claim 19), and claims **26** and **27** (which are dependent on claim 23), Ebbing is applied as in claims 1-3, 6, and 7 above. The radiation directing device of Ebbing lacks a means for changing the direction of propagation for radiation beams passing through said one or more pin holes, said direction changing means (e.g., one or more prisms) and said one or more pin holes being juxtaposed and placed to direct the radiation beams passing through said 2 or more pin holes orthogonal to each other or placed at an angle β with respect to a line intersecting said pin holes. Ebbing also discloses (Fig.

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3A) means (14, 16, 18) for changing the direction of propagation and (column 3, lines 24-26) that other optical paths may be provided as desired. Bayrock *et al.* teach (column 2, line 33 to column 3, line 25) to position direction changing means (e.g., mirrors or prisms) for changing the direction of propagation for radiation beams in order to obtain a folded optical path so as to minimize device housing dimensions. Therefore it would be obvious to one of ordinary skill to position direction changing means (e.g., prisms) juxtaposed the one or more pin holes in the radiation directing device of Ebbing (e.g., at an angle β with respect to a line intersecting the pin holes), in order to obtain multiple folded optical paths (e.g., orthogonal optical paths) so as to minimize the device housing dimensions as taught by Bayrock *et al.*

In regard to claim **56** which is dependent on claim 8, Ebbing is applied as in claim 53 above.

13. Claims 12, 57, and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ebbing (US 5,648,847) in view of Bayrock *et al.* (US 6,353,657) as applied to claims 8 and 56 above, and further in view of Walker *et al.* (US 3,813,172) and Koso (US 4,801,810).

In regard to claim **12** (which is dependent on claim 8) and claims **57** and **58** (which are dependent on claim 56), Walker *et al.* and Koso is applied as in claim 5, 54, and 55 above.

14. Claims 37, 42, 44, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asbury *et al.* ("Polarization of scatter and fluorescence signals in flow cytometry" Cytometry 40:88-101, 2000) in view of Ebbing (US 5,648,847).

In regard to claim **37** which is dependent on claim 33, the radiation beam aligning apparatus of Asbury *et al.* lacks that said screen having a mirrored surface is interrupted by 2 or more pin holes passing through said screen. Ebbing teaches (column 5, lines 4-7) to provide multiple pin holes in order to check for divergence. Therefore it would be obvious to one of ordinary skill to provide multiple pin holes in the radiation beam aligning apparatus of Asbury *et al.*, in order to check for beam divergence.

In regard to claim **42** which is dependent on claim 33, the radiation beam aligning apparatus of Asbury *et al.* lacks that said one or more pin holes have an elliptical shape. Ebbing teaches (Fig. 3A) to provide one or more pin holes (22, 22b) that pass through said screen (20) such that the inner surface of the pin holes (22, 22b) is coaxial (column 4, lines 57-61) with the laser beam path (13), said pin holes (22, 22b) inherently having an elliptical shape (*i.e.*, the pin hole inner surface is a cylinder with the cylinder axis centered on the laser beam path 13, thus the pin holes 22, 22b have an elliptical shape since the surfaces of the screen 20 are non-orthogonal relative to the cylinder axis) allowing a narrowing of the beam (column 5, lines 21-22). Therefore it would be obvious to one of ordinary skill to provide pin holes where the inner surface of the pin holes is coaxial with the radiation beam in the radiation beam aligning apparatus of Asbury *et al.*, in order to adjust the radiation beam size as taught by Ebbing.

In regard to claims **44** and **45** which are dependent on claim 33 in so far as understood, the radiation beam aligning apparatus of Asbury *et al.* lacks a means for collimating radiation reflected by said mirrored surface, said collimating means (*i.e.*, means for directing radiation) placed to direct radiation to said radiation detecting

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means. Ebbing teaches (column 5, lines 4-7) to provide multiple pin holes in order to check for divergence. Therefore it would be obvious to one of ordinary skill to provide multiple pin holes and a collimating means in the radiation beam aligning apparatus of Asbury *et al.*, in order to collimate and direct a divergent beam to a detector so as to check for beam divergence.

15. Claims 38-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asbury *et al.* ("Polarization of scatter and fluorescence signals in flow cytometry" Cytometry 40:88-101, 2000) in view of Bayrock *et al.* (US 6,353,657).

In regard to claims **38-41** which are dependent on claim 33, Bayrock *et al.* is applied as in claims 8 and 15-17 above.

16. Claims 63 and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asbury *et al.* ("Polarization of scatter and fluorescence signals in flow cytometry" Cytometry 40:88-101, 2000) in view of Walker *et al.* (US 3,813,172) and Koso (US 4,801,810).

In regard to claims **63** and **64** which are dependent on claim 62, Walker *et al.* and Koso is applied as in claims 54 and 55 above.

17. Claims 48-50, 65, and 68-71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asbury *et al.* ("Polarization of scatter and fluorescence signals in flow cytometry" Cytometry 40:88-101, 2000) in view of Piwonka-Corle *et al.* (US 5,608,526).

In regard to claims **48-50**, **65**, and **68-71**, Asbury *et al.* is applied as in claims 33-36, 43, 46, 47, and 62 above. Asbury *et al.* also disclose (first two paragraphs in Materials and Methods) that fluidic and optical components were mounted on an optical

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bench allowing easy modification and visual inspection of alignment of stream, laser, and pinhole. Thus, Asbury *et al.* teach that alignment of stream, laser, and pinhole occurs via modification (*i.e.*, repositioning) of the fluidic and optical components. The system of Asbury *et al.* lacks a radiation beam directing means and automation of the fluidic and optical component repositioning by providing a computer system controlling movement of a positioning device, the computer system receiving a signal from the detection means and sending a processed output signal to the positioning device, wherein the output signal directs the movement of the positioning device, and at least one of the emission radiation directing means, the radiation beam directing means, and the flow chamber is attached to the positioning device. Automating a manual activity is well known in the art and would be obvious to one of ordinary skill. For example, Piwonka-Corle *et al.* teach (column 13, line 64 to column 14, line 35; Fig. 7) that a computer system (processor 100 in Fig. 8) receiving a signal from the detection means (91) and sending a processed output signal to a positioning device (which can for example be attached to a sample stage 63 in Fig. 8), wherein the output signal directs the movement of the positioning device so as to properly position a measuring beam at a sample. Therefore it would be obvious to one of ordinary skill to provide a radiation beam directing means and a computer controlling a position of at least one of the emission radiation directing means, the radiation beam directing means, and the flow chamber in the system of Asbury *et al.*, in order to automate fluidic and optical component repositioning so as to obtain alignment of stream, laser, and pinhole.

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Applicant is advised that should claim 49 be found allowable, claims 69 and 71 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

18. Claims 66 and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asbury *et al.* ("Polarization of scatter and fluorescence signals in flow cytometry" Cytometry 40:88-101, 2000) in view of Piwonka-Corle *et al.* (US 5,608,526) as applied to claim 65 above, and further in view of Walker *et al.* (US 3,813,172) and Koso (US 4,801,810).

In regard to claims **66** and **67** which are dependent on claim 65, Walker *et al.* and Koso is applied as in claim 54 and 55 above.

Response to Arguments

19. Applicant's arguments with respect to claims 1-3 and 5-71 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Practical Flow Cytometry, Third Edition (Shapiro, 1995) discloses it is well known in the art that HeNe lasers emit 633 nm and HeCd lasers emit 325 nm (pg. 110-111).

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21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shun Lee whose telephone number is (703) 308-4860.

The examiner can normally be reached on Tuesday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on (703) 308-4852. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

SL
January 10, 2003


CONSTANTINE HANNAHER
PRIMARY EXAMINER
GROUP ART UNIT 2878